Welcome to TDTS04&11: Computer Networks (and DS)

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LINKÖPING UNIVERSITY

Welcome to TDDE35 Large-Scale Distributed Systems and Networks (11 ECTS)

Examiner: As. Professor Niklas Carlsson
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https://www.ida.liu.se/~nikca89/

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Course Info

- https://www.ida.liu.se/~TDTS04 (or ~tdts11)
- Back to face-to-face format!
  - Recorded lecture also available on web page
- Labs again in SU rooms
  - Labs in groups of 2
  - If you cannot register, contact TA
- Webreg for registration

Course Content

- Written exam (on site)
  - Grads: ‘fail’, 3, 4, 5.
- Four (4) mandatory lab assignments
  - Must pass all four labs
  - Eight lab opportunities
  - Please register on webreg right away!! (deadline Wed night)
- One (1) optional assignment
  - Up to 4 bonus marks for exam
- Twelve (12) lectures + one (1) exam prep.
- See website for more information …

People

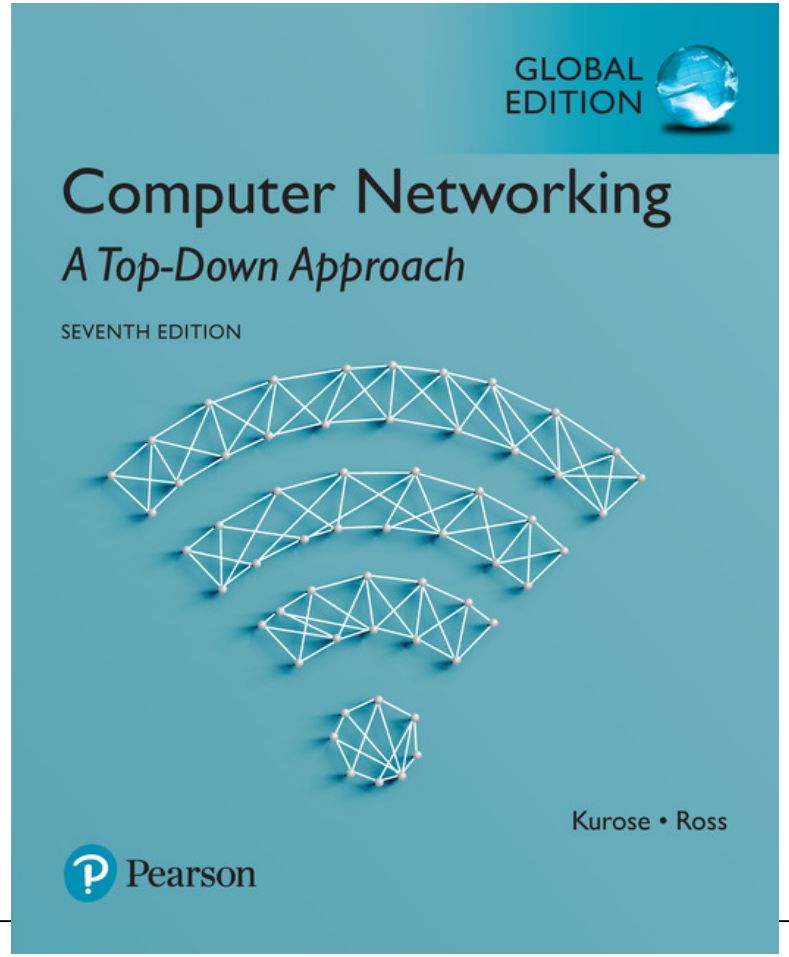
- Examiner and Lecturer (TDTS04/11)
  - Andrei Gurtov, Professor
  - Research area: Networking, network security, cloud computing, future Internet architectures, 6G, ...
- Examiner and Lecturer (TDDE35)
  - Niklas Carlsson, Associate Professor
  - Research area: Design, modeling, and performance evaluation of distributed systems and networks
- Lab assistants
  - TDTS04 GR C & D : Suleman Khan (suleman.khan@liu.se)
  - TDTS04 GR A & B : Mohammad Borhani (mohammad.borhani@liu.se)
  - TDTS 11 : Gurjot Singh <gurjot.singh@liu.se>
- Director of studies
  - Patrick Lambrix

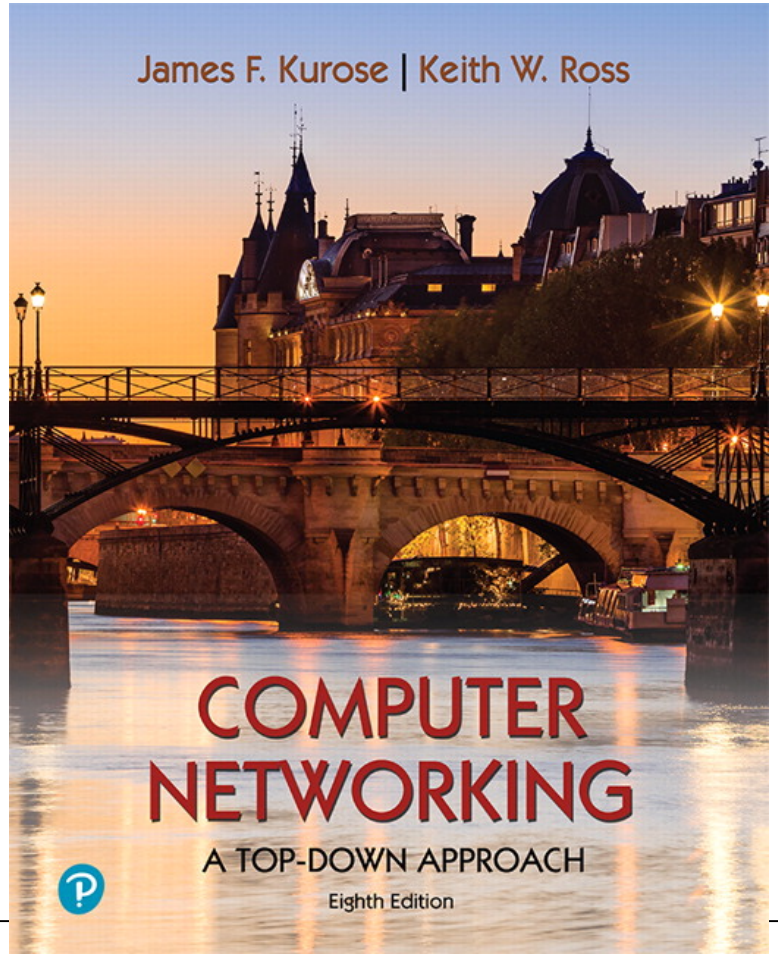
About the Lecturer (Andrei)

- Working hard for 25 years to make the Internet better
- Co-author of 6 RFCs, co-chair at Internet Engineering Task Force
  - including NewReno TCP, one of the most used (Berkeley)
- 4 books on 5G, P2P, security protocols, SDN
- ACM Distinguished Scientist
  - Over 200 journal and conference papers
- 15 supervised PhD theses
  - Alumni at Google, SuperCELL, Nokia, Ericsson, VMware
- IEEE Distinguished Lecturer
  - Tours: Puerto Rico, AbuDhabi, Lebanon, Panama, Dominican Republic, (85 countries)


Greenland
Canada
United States
Mexico
Colombia
Venezuela
Peru
Brazil
Bolivia
Chile
Argentina
North Pacific Ocean
South Pacific Ocean
North Atlantic Ocean
South Atlantic Ocean
Indian Ocean
Iceland
Sweden
Norway
United Kingdom
France
Spain
Italy
Ukraine
Russia
Kazakhstan
Mongolia
China
Japan
South Korea
Afghanistan
Pakistan
Iran
Iraq
Turkey
Egypt
Libya
Algeria
Mali
Niger
Chad
Sudan
Nigeria
Ethiopia
Kenya
DRC
Tanzania
Angola
Namibia
Botswana
South Africa
Madagascar
Saudi Arabia
India
Thailand
Indonesia
Papua New Guinea
Australia
New Zealand

Course book: 8th edition





List of abbreviations

- https://www.ida.liu.se/~TDTS04/timetable/abbreviations.pdf

Why to attend lectures?

- Opportunity to ask questions!
- Demos of protocol animations
- Know which parts/slides important for exam
- Sample exam questions and solutions
- Explanatory real-world examples
- Organize yourself for chapter progress/labs
- But can also watch recorded lectures (textbook or lecturer's)

Lecturer's Wish List

- Buy/rent and read the textbook
  - Very good textbook, written by highly regarded researchers in the field
  - No time to cover everything during lectures
  - Read the corresponding chapter before the lecture!
- Work hard
  - Pay attention during lectures
  - Make sure you understand the material
  - Start assignments early (some will take time)
  - Ask questions!
- Follow deadlines

Last year's course evaluation

- ~2 average grade for TDTS04 and ~3 for TDTS11
  - TDTS06 in Fall was 4.3
- Wide range 1...5 feedback
  - Hard to make everyone satisfied
- "Lectures too fast or monotonous"
  - Now also textbook author video lectures available!
- "TAs not competent/ give little time"
  - Now have a 4th group in TDTS04, experienced TAs

Last year's course evaluation (cont)

- "Use own slides instead of textbook"
  - A fast-evolving field, full time job to keep slides up-to-date
- "Labs are not related to the lectures"
  - ??? We cover all protocols like TCP, routing, HTTP,...
- "Too many slides/topics to study"
  - Key vs. optional topics are listed on the web page
- "Not all prior exams are available"
  - Changed TDTS04&11 exams questions to be all available

Lab Updates from 2020

- HTTP assignment has received some minor tweaks.
- TCP assignment:
  - Made question 1-12 required to answer (earlier considered “practice questions” and only explicitly answered by some students)
  - Question 13, the most confusing of them all, has been updated to better align with the original question.
- Net Ninny assignment (replaced with Fake News):
  - Updated/removed some text to make the assignment more clear
- Distance Vector Routing assignment:
  - Improved instructions and Java template
  - C and Python versions available!

Lecture Videos, Slides

- My recorded lectures from a similar course are available here

https://liuonline-my.sharepoint.com/:f:/g/personal/andgu38_liu_se/Eh1nFrZCvgZCqOO9p2hyWzsBSOQ--TXgPqxkb_lZsBmixg?e=nypWek

- Also videos and other materials from book authors are here

https://gaia.cs.umass.edu/kurose_ross/lectures.php

- Animations

https://wps.pearsoned.com/ecs_kurose_compnetw_6/216/55463/14198702.cw/index.html

What's Next After This Course?

- Consider other courses where I teach
  - TDDD17 Information Security, 2nd course, Lecturer and lab leader
  - TDDE21 Advanced Project: Secure Distributed and Embedded Systems, Examiner
  - TDDE53 Bachelor project on Secure Mobile systems, thesis supervisor
- Contact me for Master thesis topics, in LiU or industrial
- PhD positions available after graduation